topes in their bones from exposure in Europe and that in blood from exposures in Australia. In most other populations, the similarity of the many kinds of lead (isotopes) in bone and blood make distinguishing lead leached from bone impossible. An additional study using nonhuman primates with long-term exposure to lead will provide an animal model for studying lead in pregnant women and also allow study of suboptimal versus superoptimal nutrition in preventing lead transfer from the pregnant animal to the fetus during pregnancy.

- Environmental health sciences centers. NIEHS has funded multidisciplinary centers at research universities throughout the United States for some time. Now, through the agreement with ORMH, NIEHS is funding developmental centers based on this same model located at universities in proximity to areas of special environmental concern, allowing universities in polluted areas to take part in this competitive program. The first center has been established jointly at Tulane and Xavier Universities in New Orleans, Louisiana, to address environmental concerns associated with the petrochemical industry in Louisiana.
- National environmental health meeting. This agreement will also allow NIEHS to sponsor a national meeting July 28 and 29 in Washington, DC, addressing environmental health research gaps and priorities arising from the concern that those in lower socioeconomic groups and some racial groups have greater health risks resulting from living and working closer to pollution. The meeting will provide a forum for developing research strategies to study the distribution in various populations of environmental health risks, and to find ways to reduce these risks.

Electromagnetic Fields Research

NIEHS has signed an interagency agreement with the EPA contributing to the ongoing electromagnetic fields (EMF) research program to help determine whether any relationship exists between exposure to EMF and adverse human health effects.

The agreement provides $1.8 million in EPA funds for fiscal year 1993 to support research grants funded by NIEHS. These funds will be used to support grantee researchers to 1) identify biological processes that might explain progression from EMF exposure to the development of disease, and 2) assess human exposure to EMF. The agreement calls for priority to be given to cancer as a possible health effect, but also states that other research areas to be addressed include effects on reproductive, developmental, and neurological aspects of human health.

According to the agreement, research should look at possible cause-and-effect relationships involving biological processes such as gene expression, growth of transformed cells, and intracellular reactions associated with chemical signaling. Re-search also should focus on accurately characterizing human exposure to EMF, particularly in the home and public environments.

Although several epidemiologic studies have reported a possible association between EMF exposure and cancer, EPA's Science Advisory Board concluded last year that the currently available information is "insufficient to conclude that electric and magnetic fields are carcinogenic." The National Comprehensive Energy Policy Act of 1992 names NIEHS as the lead federal agency for coordinating research on the possible human effects of EMFs and for collecting and disseminating information to the public and policymakers.

Physicians address environmental concerns. From left to right: John Grupenhoff, National Association of Physicians for the Environment; Charles Cummings and Jerome Godstein, American Academy of Otolaryngology-Head and Neck Surgery; Kenneth Olden, NIEHS; Philip Landrigan, Mount Sinai Medical Center.

Physicians Agree Environmental Organization Is Needed

More than 100 physicians, environmental professionals, and other leaders met in Washington, DC, in February and agreed that an umbrella organization is needed to pull together medical organizations and other interested groups to systematically inform the public about the impacts of environmental pollutants on human health. The national conference titled "Physicians and the Environment" was co-sponsored by the American Academy of Otolaryngology–Head and Neck Surgery, Inc. and the National Association of Physicians for the Environment, with funding support by NIEHS.

Among the speakers were 23 medical organization leaders, several leaders of major environmental organizations, the executive director of the American Association of Retired Persons, a high-ranking official from the Smithsonian Institution, and others. Senator Tom Harkin (D-Iowa), chair of the Senate Subcommittee on Labor-HHS-Education Appropriations, expressed strong support for the concept of a National Association of Physicians for the Environment and noted that he was pleased to learn of an international organization with similar objectives, the International Society of Doctors for the Environment.

It was agreed that the major issues to be dealt with include air pollution, ozone layer depletion, biological diversity, water pollution, environmental tobacco smoke, lead, hospital and medical office waste, pesticides and herbicides, electromagnetic fields, and hazardous waste. Participants discussed the development of appropriate research strategies to improve understanding of the impact of environmental pollutants in order to assure solid scientific bases for action. The importance of medical organizations working with the National Institutes of Health, and especially NIEHS, to assure that information disseminated is solidly based on science was stressed. For further information on the National Association of Physicians for the Environment, contact John Grupenhoff, (301) 571-9791. Conference proceedings are available from Grupenhoff or from the NIEHS Office of Communications, (919) 541-2605.

Cooperation in Toxicology Strategy Sought

Kenneth Olden, NIEHS and NTP Director, continued to seek broad-based input